while trails forward of the position must be covered by observation and fire.

• In the defense, patrols should be scheduled to deflect or eliminate all enemy probing and reconnaissance efforts. They should have set routes, should include one or more ambush positions, should be as aggressive as possible, and should always try to capture a prisoner. (A squad-size patrol is better than a platoon-size patrol unless the unit is assured of killing a lot of enemy.) A patrol should never be sent outside of communication or indirect fire range, and flank units must know its routes and schedule. Too, a patrol should return to the company lines at first light instead of in the middle of the night. A running password is again required and should be coordinated with the flank positions in case the patrol gets confused. Ground surveillance radar can be used to monitor a patrol's activities and to help guide it back to the company's lines.

• Leaders should always keep radios with them while setting the defense. For instance, it can take up to six hours to walk a company line, and the radio enables the leaders to stay abreast of key events and shift to handle problems.

• Fields of fire should be cut thinly and the gun positions should be disguised; if the soldiers cannot see to shoot their weapons, the fields of fire should be cut still more until they can see their sectors.

• Every soldier should be taught to recite the following items of information as a litany to the company commander, first sergeant, or other "inspectors": Who he is; his unit down to squad level; his job (SAW gunner); who is on his left, right, and front; the signals for the FPF and withdrawal; the enemy, including weapon capabilities; his position, including sectors of fire, range card, and what weapons his frontal and overhead protection will stop. This is a tried and true system that forces soldiers to remember the critical information they need to perform their mission and to survive.

In summary, defensive positions and fire planning must give a soldier a sense of protection and security, or he will not fire his weapon. Establishing light infantry company defensive positions is therefore a task that deserves careful planning and attention.

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Training for the Urban Battle

CAPTAIN RICHARD J. KANE

In virtually any future war that can be imagined, every unit—combat, combat support, and combat service support—will conduct military operations on urbanized terrain (MOUT). This means that our training programs must keep pace with the ever-increasing urbanization of lands throughout the world.

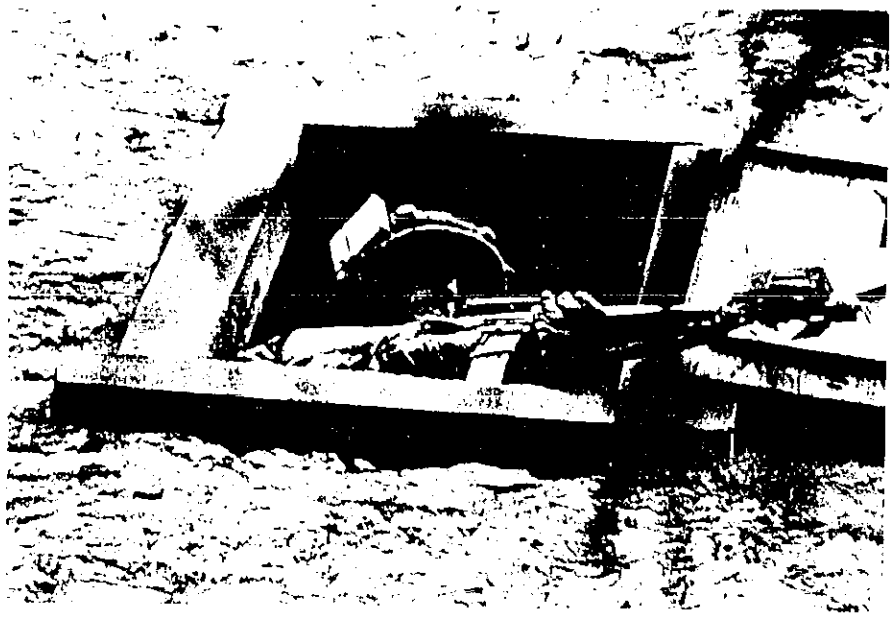
The U.S. Army Infantry School is pursuing several Army-wide MOUT training initiatives that are relevant to all branches. Chief among these are a MOUT White Paper, a MOUT training strategy, a MOUT training complex, and Training Circular 90-1.

The recently drafted White Paper highlights fundamental definitions in the current doctrine and the problems that previously resulted from the misuse of terminology. FM 90-10, for instance, defines MOUT as "all military actions that are planned and conducted on a terrain complex where man-made construction impacts on the tactical options available to the commander." This is a broad category that includes not only operations within an urban complex but also operations that are affected in any way by urbanization.

Urban terrain is also a broad term. Although we tend to equate it with buildings, it encompasses any area where man's hand has altered the face of the terrain. Within the full scope of the definition in FM 90-10, then, MOUT is part of almost every combat operation.

The White Paper, on the other hand, uses the term *combat in built-up areas* as one portion of MOUT that pertains to fighting among streets and buildings. This category can be further divided into *combat in cities, combat in small cities and towns, combat in villages,* and *combat in strip areas.*

(Many trainers incorrectly equate MOUT training only with training for combat in built-up areas. We do indeed need more training for fighting



Much of the training we conduct has a MOUT component to it.

in built-up areas, but we also conduct more MOUT training than we generally realize. For example, most of the field training performed in West Germany and Korea today has a significant MOUT component in it.)

MOUT is not an arcane form of combat that demands unique approaches to training. As with other types of terrain (such as mountain, desert, arctic, and forest), urbanization is only one condition (albeit a significant one) that is superimposed over a unit's area of operations.

FM 25-100, Training the Force, is the Army's keystone manual on training, and its systematic approach to training is as applicable to MOUT as it is to any other condition. The manual describes the method of determining what to train and how to train. Leaders must understand its concepts of battle focus, mission essential task lists, battle tasks, performance oriented training, evaluation of training, and training management cycle.

The threat and the operational environment are the foundation for planning operations. Leaders must understand how their potential enemies intend to fight in urban terrain and how urbanization affects their operations. They should follow the normal estimate process—applying the principles of METT-T (mission, enemy, terrain, troops, and time available)—to accomplish the same missions they perform anywhere else. But when necessary they must also apply urban considerations to their usual basic tactics and techniques.

Leaders must be proficient in these tasks before they instruct their soldiers, and leader training should teach doctrine, standardize training, and train the trainer. In units, this is typically part of the officer and NCO development programs.

During individual training, soldiers must learn basic urban combat tasks such as movement in built-up areas or the construction of urban fighting positions. They must also learn any urban tasks that pertain specifically to their duty positions; for example, unit medical personnel should know how to evacuate litter patients from multistory buildings.

Collective MOUT training should be conducted at every level. Due to the highly decentralized nature of urban combat, however, squad and platoon level tasks are the most critical, and they must be mastered. Trainers can integrate these tasks into platoon and company situational training exercises and battalion field exercises. Training that requires fewer resources at company and battalion level can include command post exercises, battle simulation exercises, and map exercises.

MOUT proficiency can be sustained by refresher training and continued by instruction on more advanced urban tactics and techniques. Varied conditions such as a nuclear, biological, and chemical threat or the presence of civilians in an area will further support sustainment training.

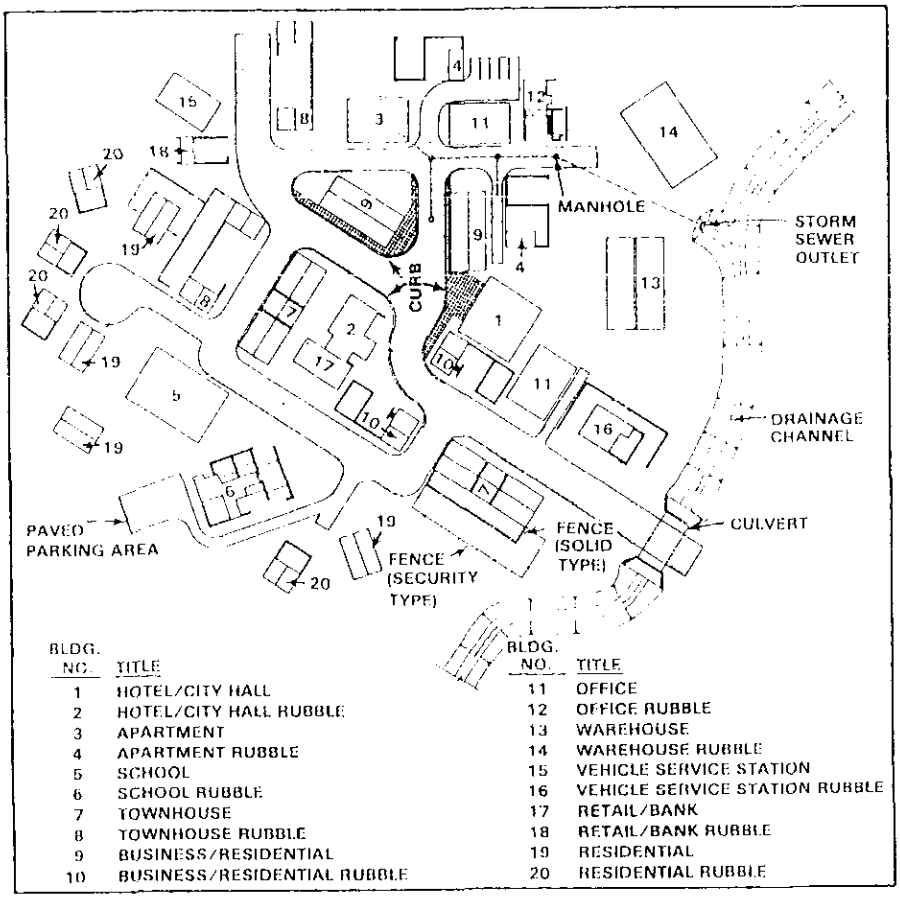
The Army is in the process of building more facilities to support its increased urban training requirements. A standard design that was developed to meet this need is presented in Huntsville (Alabama) Division Manual 1110-1-7, Design Information for Military Operations in Urbanized Terrain (MOUT) Training Complex, dated February 1986. (This design manual supersedes a similar manual dated May 1984.) It presents a generic design for a MOUT training complex (MTC) consisting of two separate facilities; a collective training facility (CTF) and a MOUT assault course (MAC). An entire company can train in the complex at one time.

The CTF, which represents a typical built-up area, comes in two sizes—either 16 or 32 buildings. Many of these buildings are only partially constructed to depict buildings that have been wrecked by combat. (Figure 1 shows an example of a CTF layout.) The CTF can support the training of platoons and companies. Outside the facility, units can train in such MOUT tasks as support of a deliberate attack against the CTF or preparation of battle positions that support a CTF strongpoint.

The MAC is a seven-station course, with each station depicting a separate tactical situation for training in individual and small unit-tasks. (Figure 2 shows a typical MAC layout.) Five of the seven stations accommodate live-fire training.

Although live hand grenades cannot be used in the current MAC stations, a new live-fire station in which live grenades can be used is being designed for the MAC. Called the Grenade House, this station is constructed of steel-fiber-reinforced shock-attenuating concrete and has training, maintenance, and safety advantages over buildings lined with tires.

Standard design MTCs have been



BLDG. NO.	TITLE	BLDG. NO.	TITLE
1	HOTEL/CITY HALL	11	OFFICE
2	HOTEL/CITY HALL RUBBLE	12	OFFICE RUBBLE
3	APARTMENT	13	WAREHOUSE
4	APARTMENT RUBBLE	14	WAREHOUSE RUBBLE
5	SCHOOL	15	VEHICLE SERVICE STATION
6	SCHOOL RUBBLE	16	VEHICLE SERVICE STATION RUBBLE
7	TOWNHOUSE	17	RETAIL/BANK
8	TOWNHOUSE RUBBLE	18	RETAIL/BANK RUBBLE
9	BUSINESS/RESIDENTIAL	19	RESIDENTIAL
10	BUSINESS/RESIDENTIAL RUBBLE	20	RESIDENTIAL RUBBLE

Figure 1. Typical 32-building CTF.

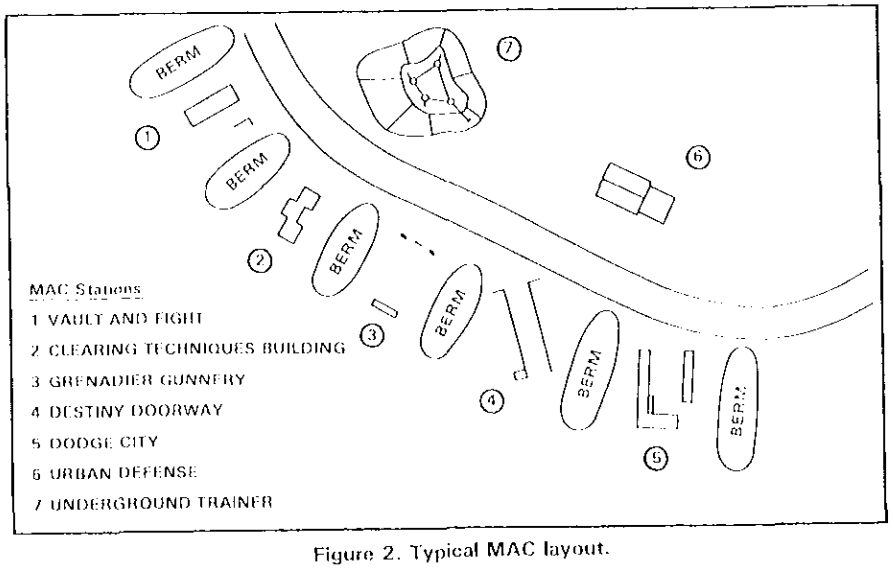


Figure 2. Typical MAC layout.

built at Fort Hood, Fort Pickett, and Fort Ord, and many others are planned for both the Active Army and the Reserve Components. The exact details of each CTF and MAC will vary from one installation to another on the basis of local guidance and site requirements.

It is absolutely essential that engineers, range personnel, safety experts, and MOUT trainers coordinate closely throughout the planning and construction process to ensure that the training objectives can be achieved safely and effectively. Some planners may try to site their CTF and MAC close together to ease command and control during training, but this will limit the usefulness of the CTF. In fact, the two facilities should be built in separate locations to allow soldiers to maneuver around the CTF in all directions.

Training Circular 90-1, Military Operations on Urbanized Terrain Training, which is described below, is a single-source document for MOUT training that is conducted in units. Although it is a user's guide to a standard design MTC, it can also be applied to any similar facility. To adapt it to their own training needs, trainers need only exercise their own judgment, imagination, and experience.

Chapter 1 presents the MOUT training objective and training strategy in terms that are appropriate to company-level leaders. Chapter 2 covers urban combat doctrine--both U.S. Army and threat doctrine--and describes the urban battle that squads, platoons, and companies will face.

Chapter 3 describes the MOUT assault course and presents an effective training sequence for each station with detailed explanations and diagrams. This chapter gives trainers a ready-made lesson plan. Chapter 4 describes the collective training facility, discusses how to develop scenarios for training exercises, and includes a sample training scenario. The appendixes round out the circular with a variety of information to help units with their MOUT training programs.

The Infantry School realizes that MOUT training will continue to compete with a host of other training priorities. But the urbanization of our future battlefields, along with a sound analysis of our training needs under FM 25-100, demands that we train our units to mission readiness in urban terrain. The MOUT training complex will greatly facilitate this training.

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